

Proposed Cleanup of a Former Gas Plant Site Hammond, Indiana

Northern Indiana
Public Service
Company
Merrillville, Indiana

Outline of Presentation

- Provide background on gas plants and Hammond site
- Review the investigation/evaluation process
- Present the cleanup plan (land and river)
- Discuss status and schedule
- General discussion

Site Location



Site Photo - Land



Site Photo - River



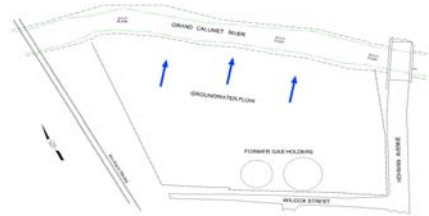
Manufactured Gas Plants (MGP)

- Provided gas for heating and light prior to interstate pipelines (1800's to 1950)
- Approx. 3,000 sites nationwide
- Environmental issues are consistent/well defined
 - Electric Power Research Institute (EPRI)
 - Gas Research Institute (GRI)

Environmental Issues

- By-products were stored on-site for recycling
 - Roofing material, road tar
- Supply could exceed demand
 - Leaked from storage vessels (gas holders, tar wells)
 - Remained on-site when plant was demolished
- Coal tar can be present as “free product”
 - Soil and groundwater impacts
 - Volatile organic compounds (VOCs)
 - Polycyclic aromatic hydrocarbons (PAHs)

Hammond Site (1900-1925)



Results of Site Investigations

- Land Side
 - Limited surface soil (0-2 ft.) impacts – PAHs
 - Subsurface soil impacts – VOCs, PAHs
 - Groundwater – VOCs, PAHs
 - Coal tar – down gradient of gas holders
- River Side
 - Coal tar in sediments (sheen or seeps intermittent)
 - Surface water
 - Complicated by upstream sources

Voluntary Remediation Program

- IDEM VRP was identified as an appropriate regulatory mechanism
- Indiana VRP is a risk-based program
 - Evaluate significance of impacts two ways
 - Published standards for soil and groundwater
 - Site-specific risk assessment
 - Identify “complete” exposure pathways
 - Review constituent concentrations in associated media
 - Standard techniques to evaluate potential risk

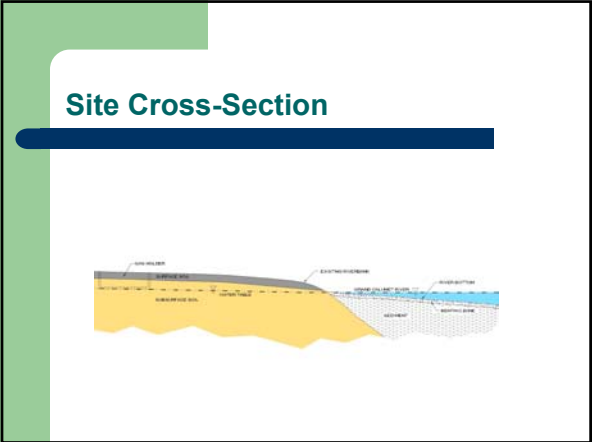
Risk Assessment

- Impacted Media
 - Land
 - Groundwater (incomplete pathway-no users)
 - Subsurface soil (incomplete –use of controls)
 - Surface soil (potential risk to construction worker)
 - Fencing eliminates “residential” exposure
 - River
 - Surface water (concentrations do not pose risk)
 - Human or ecological
 - Sediment (potential risk to benthic community)
 - Worms, etc. in top 6 inches of sediment

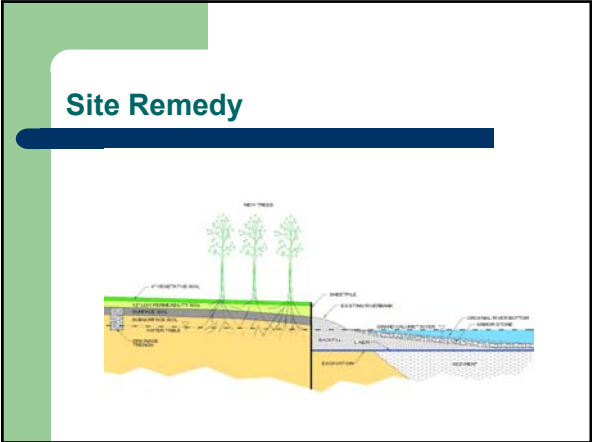
Cleanup Goals

- Risk-Based
 - Eliminate potential exposure to surface soil
 - Restore habitat for benthic community
- Other IDEM Requirements
 - Contain migration of coal tar
- Practical Considerations
 - Minimize disruption to community
 - Odors, noise, traffic, extended schedule, upstream sources

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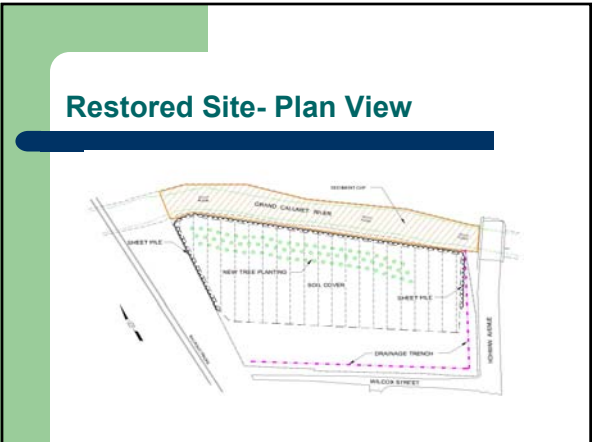
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- ## Implementation
- Land (2 months)
 - Clear vegetation
 - Install barrier wall
 - Install drain to intercept groundwater
 - River (3 months)
 - Install upstream/downstream dams/divert river
 - Excavate impacted sediments (depth of 2 ft.)
 - Transport/dispose off-site at permitted facility
 - Install liner on top of remaining sediments
 - Place clean backfill
 - Secure with “armorment”
 - Restore river flow

- ## Implementation (Cont.)
- Land (1 month)
 - Place soil/vegetation cap
 - Plant trees to increase water uptake on site
 - Final restoration
 - Open space, improve access to river
 - Currently reviewing interests of city

100%



- ## Status
- Work Plans under review by IDEM
 - Preliminary approval by Army Corps. (nationwide)
 - Water quality certification by Indiana
 - Wetlands Mitigation
 - Floodplain modeling (IDNR)
 - Initial permitting discussions city
 - Air emissions
 - Water discharge
 - Community Outreach
 - Project start – 2003?

Stakeholders

